

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2002-170374

(43)Date of publication of application : 14.06.2002

(51)Int.Cl.

G11C 11/15  
G11C 11/14  
H01L 27/105  
H01L 43/08

(21)Application number : 2000-361157

(71)Applicant : CANON INC

(22)Date of filing : 28.11.2000

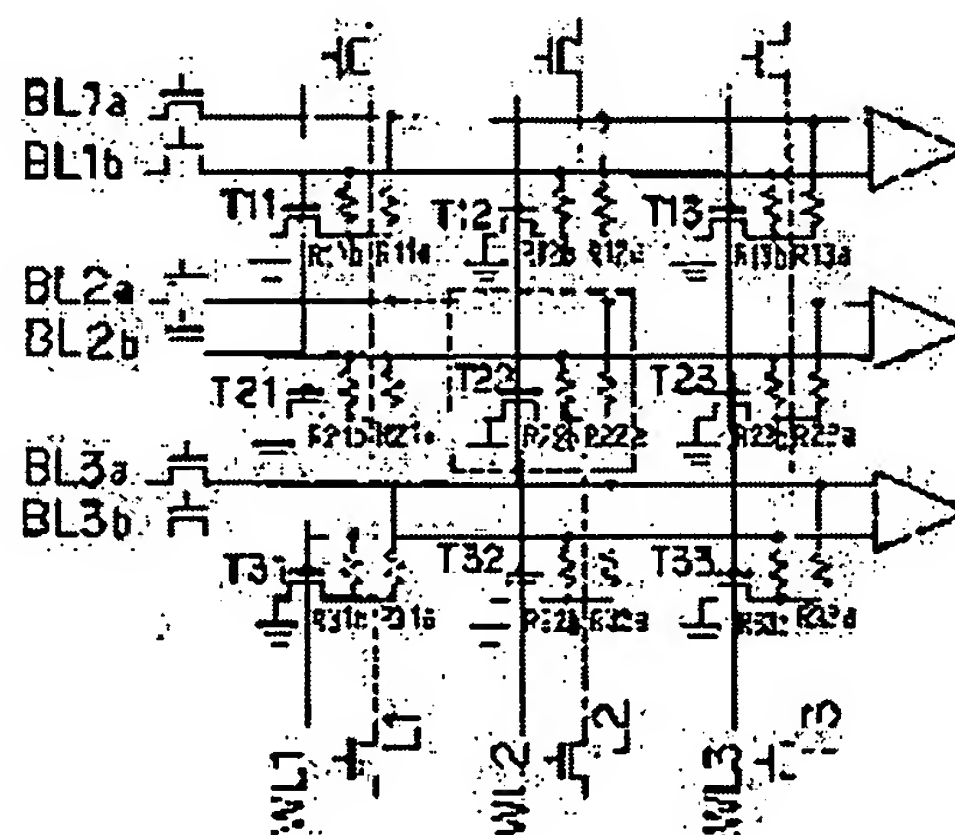
(72)Inventor : HIRAI MASAHIKO  
NISHIMURA NAOKI

## (54) FERROMAGNETIC NON-VOLATILE STORAGE ELEMENT, ITS INFORMATION REPRODUCING METHOD, MEMORY CHIP USING IT, AND PORTABLE INFORMATION PROCESSING DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a ferromagnetic non-volatile storage element in which cell area can be reduced, storage information can be detected at high speed and accurately even if a magnetic resistance variation rate is small, and can be integrated in high density.

SOLUTION: A unit cell constituting a memory of one bit is constituted of two magnetic resistance elements R22a, R22b magnetized so that respective direction of magnetization is reverse direction, and one semiconductor switch element T22 for selecting these magnetic resistance elements. In the semiconductor switch element, a drain terminal is connected commonly to one side of terminals of the magnetic resistance elements R22a, R22b, a source terminal is connected to ground, and a gate terminal is connected to a word line WL2. Other terminals of the magnetic resistance elements R22a, R22b are connected to bit lines BL1a, BL1b respectively.



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]